UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

APR 2 4 1988

MEMORANDUM

SUBJECT: Transmittal of Inspection Report - RCRA

FROM: Robert B. Dona RBDona
Chief, RCRA Monitoring Section, EMCM/ENSV

TO: Michael J. Sanderson
Chief, RCRA/WSTM

This memorandum transmits the following RCRA compliance inspection report performed by the RCRA Monitoring Section, Environmental Monitoring and Compliance Branch, Environmental Services Division.

Facility	EPA ID Number	Activity Number	Areas of Non-Compliance
Jebro, Inc. Sioux City, Ia	IAD02021604	ARP22	1. Satellite accumulation.

Attachments

Logged in
C.C. Luetta
State Glee
4/26/88

RCRA INSPECTION REPORT RECEIPT AND FOLLOW-UP REQUEST

Facility Name: Jebro, Inc.

Facility Location: Sioux Iowa

EPA ID Number: IAD002021604

Date of Inspection: 4/6/88

Inspector: Roma P Jenkins

Activity Number: ARP22 Inspection Type: CEI

Date Report Transmitted: 4/~~17~~21/88

*Date Report Received: / /

*Additional Information Requested/Needed Not Included In Report:

_____

_____

_____

_____

#Photographs Taken: #Photographs in Report:
*Additional Copies Needed (Specify Which)

*Additional Information Needed By: / /

Field Notes Taped [Yes/No]
*Disposition: Retain, Discard, Transcribe.

#Samples Taken: #Samples Analyzed:
*Disposition: Retain, Discard, Analyze more (specify which)

*Report Reviewed By:

*Date Review Completed: / /

*Items to be completed by RCRA Branch, WSTM and returned to Chief, Field Investigations Section, EMCM/ENSV

REPORT OF RCRA COMPLIANCE INSPECTION

AT

JEBRO, INC.

SIOUX CITY, IOWA

EPA ID NUMBER: IAD02021604

ON

APRIL 6, 1988

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Waste Management Division (WSTM), a RCRA compliance evaluation inspection was performed at Jebro, Inc., in Sioux City, Iowa on April 6, 1988. The inspection was conducted under the authority of Section 3007 of the Resource Conservation and Recovery Act (RCRA), as amended. This report and attachments present the results of the inspection.

PARTICIPANTS

Jebro, Inc:
David Dillman, Safety Director

U.S. Environmental Protection Agency (EPA):
Rona P. Jenkins, Environmental Engineer

INSPECTION PROCEDURES

Upon arrival at Jebro, Inc., Mr. Dillman was contacted. Mr. Dillman acted as the official facility representative. The inspector presented his EPA credentials and explained the purpose of the inspection and the procedures that would be followed. The inspection consisted of a discussion of facility activities, waste generation and waste management practices and a review of hazardous waste management plans, programs and records, and a visual inspection of the hazardous waste management areas. At the conclusion of the inspection, the inspector summarized and reviewed his findings with Mr. Dillman. A Notice of Violation was issued which Mr.

Dillman signed as acknowledgement of receipt. Mr. Dillman also signed as acknowledgement of receipt a Confidentiality Notice and Document Receipt. All three of these documents are included as Attachments 1, 2, and 3.

FACILITY DESCRIPTION

Jebro, Inc., is a producer of asphalt blended to meet individual order specficiations. Asphalt is taken from the extreme heavy end of crude oil as it is distilled. The asphalt or heavy distillate end is taken and "cut" or mixed with lighter petroleum distillates such as mineral spirits or used oil in a specified amount to obtain the viscosity ordered by the customer specification. (See Attachment 4 for tests to run for asphalt specification). Jebro produces three types of asphalt: asphalt cement (70%), rapid curing asphalt (10%) and medium curing asphalting (20%).

Jebro ceased using waste 1,1,1-trichloroethane and isopropanol a cutting agent per instructions received from EPA in February of 1986. Isopropanol and trichloroethane are used by Jebro to clean laboratory equipment. The laboratory equipment is used to determined the viscosity and other parameters of the asphalt. If the viscosity or other parameters of the asphalt do not meet contract specifications, Jebro is penalized according to a scale specified by the contract.

FINDINGS AND OBSERVATIONS

Jebro notified as a generator of hazardous waste on September 18, 1985. Jebro also notified an February 17, 1987 as a marketer and burner of used oil.

Since February of 1986, Jebro has been storing isopropanol and 1,1,1-trichloroethane in satellite accumulation. Jebro has less than one drum of isopropanol and less than one drum of 1,1,1-trichloroethane in satellite accumulation. Jebro has accumulated the two drums over a period of two years. Jebro had no other hazardous wastes on-site at the time of the inspection.

SUMMARY

A Notice of Violation was issued to Jebro for not marking the containers with the words "Hazardous Waste" and not having the accumulation date on the container.

Roma P Jenkins
Roma P. Jenkins
Environmental Engineer
Date: 4/20/88
Activity Number: ARP22

Robert B Dona
Robert B. Dona
Chief, RCRA Monitoring Section
Date: 4-20-88

Attachments:

Attachments:

1. Notice of Violation
2. Confidentiality Notice (3 pages)
3. Document Receipt
4. Letter from Jebro to Glenn Soyer, Iowa Environmental Services dated March 26, 1986.
5. Booklet titled "Specifications for Paving and Industrial Asphalts".

Notice of Violation Pursuant to Requirements of the Resource Conservation and Recovery Act (RCRA)

TO: Facility Name: Jebro Inc
Address: 2303 Bridge port Drive
Sioux City Iowa 51111
EPA ID Number: IAD022201604 Date: April 6 1988

During an inspection just completed to determine compliance with the requirements of Subtitle C of RCRA and regulations promulgated pursuant thereto, the following violations were identified:

Citation	Description of Violation
40 CFR 262.34(c)	Drums in satellite accumulation were not marked as hazardous waste.
40 CFR 262.34(d)(5)(ii)	Information was not posted next to Telephone

This notice is provided to call your attention to those areas of noncompliance at the earliest possible time. This notice does not constitute a compliance order (Administrative Civil Complaint) issued pursuant to Section 3008 of RCRA and may not be a complete listing of all violations which may be identified as a result of this inspection.

The Jebro Inc is hereby requested to submit in writing within 10 days of receipt of this notice a description of all corrective actions taken and/or a schedule for completion of necessary correction actions to be taken to: Michael Sanders, Chief, RCRA Branch, U. S. Environmental Protection Agency, Region VII, 726 Minnesota Ave., Kansas City, Kansas, 66101. The corrective actions taken by Jebro Inc will be considered in subsequent enforcement follow-up. Should civil penalties be assessed, corrective action(s) will be considered in assessing the penalty amount.

If you have any questions on this Notice or wish to discuss your response, you may call Eugene Evans (U. S. EPA) at 913-236-2887, or _____, (_____), at _____.

This Notice prepared by Roma P Jenkins Date: April 6 1988
Roma P Jenkins

The undersigned person hereby acknowledges that he/she has received a copy of this Notice and has read same.

Printed Name: David L Dillman Date: 4/6/88

Signature: _____

Title: Safety Director

7-EPA-3500.7 (Rev. 5/85)

Notice of Violation Pursuant to Requirements of the Resource Conservation and Recovery Act (RCRA)

TO: Facility Name: [illegible]
Address: [illegible]

EPA ID Number: [illegible] Date: [illegible]

During an inspection just completed to determine compliance with the requirements of Subtitle C of RCRA and regulations promulgated pursuant thereto, the following violations were identified:

Citation	Description of Violation
[illegible]	Drums in satellite accumulation were
	Information was not posted next to
	Telephone

This notice is provided to call your attention to those areas of noncompliance at the earliest possible time. This notice does not constitute a compliance order (Administrative Civil Complaint) issued pursuant to Section 3008 of RCRA and may not be a complete listing of all violations which may be identified as a result of this inspection.

The Jebro Inc is hereby requested to submit in writing within 10 days of receipt of this notice a description of all corrective actions taken and/or a schedule for completion of necessary correction actions to be taken to: Michael Sanders, Chief, RCRA Branch, U. S. Environmental Protection Agency, Region VII, 726 Minnesota Ave., Kansas City, Kansas, 66101. The corrective actions taken by Jebro Inc will be considered in subsequent enforcement follow-up. Should civil penalties be assessed, corrective action(s) will be considered in assessing the penalty amount.

If you have any questions on this Notice or wish to discuss your response, you may call Eugene Evans (U. S. EPA) at 913-236-2837, or _____, (_____), at _____.

This Notice prepared by Roma P Jenkins Date: April 6 1988

The undersigned person hereby acknowledges that he/she has received a copy of this Notice and has read same.

Printed Name: [illegible] Date: 4/6/88

Signature: [illegible]

Title: [illegible]

7-EPA-3500.7 (Rev. 5/85)

Notice of Violation Pursuant to Requirements of the Resource Conservation and Recovery Act (RCRA)

TO: Facility Name: _____

Address: _____

EPA ID Number: _____ Date: _____

During an inspection just completed to determine compliance with the requirements of Subtitle C of RCRA and regulations promulgated pursuant thereto, the following violations were identified:

Citation	Description of Violation
	Drums in satellite accumulation were
	Determined was not posted next to
	Telephone.

This notice is provided to call your attention to those areas of noncompliance at the earliest possible time. This notice does not constitute a compliance order (Administrative Civil Complaint) issued pursuant to Section 3008 of RCRA and may not be a complete listing of all violations which may be identified as a result of this inspection.

The Tabco Inc is hereby requested to submit in writing within 10 days of receipt of this notice a description of all corrective actions taken and/or a schedule for completion of necessary correction actions to be taken to: _____, Chief, RCRA Branch, U. S. Environmental Protection Agency, Region VII, 726 Minnesota Ave., Kansas City, Kansas, 66101. The corrective actions taken by _____ will be considered in subsequent enforcement follow-up. Should civil penalties be assessed, corrective action(s) will be considered in assessing the penalty amount.

If you have any questions on this Notice or wish to discuss your response, you may call _____ (U. S. EPA) at _____, or _____, (_____), at _____.

This Notice prepared by _____ Date: _____

The undersigned person hereby acknowledges that he/she has received a copy of this Notice and has read same.

Printed Name: _____ Date: _____

Signature: _____

Title: _____

. ENVIRONMENTAL PROTECTION AG
RCRA INSPECTION
CONFIDENTIALITY NOTICE

Name and Address of Inspector(s)	Name and Address of Facility Jebro, Inc 2303 Bridgeport Dr Sioux City Iowa 51111	
U.S. EPA, Region VII ENSV Division 25 Funston Road Kansas City, Kansas 66115	Owner, Operator, or Agent in Charge David Dillman	
	Title Safety Director	
	Address	
Name of Individual to Whom Notice Given	Title	Date

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FDIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Resource Conservation and Recovery Act, Section 3007, as amended. EPA is required to make inspection data available in response to FOIA requests, unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all of the information collected by EPA during the inspection may be claimed confidential, if it relates to trade secrets or commercial of financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by the means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that the EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To claim information confidential, you must certify that each claimed item meets <u>all</u> of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.

2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).

3. The information is not publicly available elsewhere.

4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time you may make claims that some or all of the information is confidential and meets the four criteria listed above.

RCRA INSPECTION CONFIDENTIALITY NOTICE	Facility Jebro Inc

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials, to the Owner, Operator, or Agent in Charge of your firm, within two days of this date. That person must return a statement, specifying any information which should receive confidential treatment.

This statement from the Owner, Operator, or Agent in Charge should be addressed to:

Mr. David A. Wagoner
Director, Waste Management Division
United States Environmental Protection Agency
726 Minnesota Avenue
Kansas City, Kansas 66101

and mailed by registered, return-receipt requested mail with in seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Owner, Operator, or Agent in charge, within the seven-day period, will be treated by the EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by the facility official receiving this Notice:

I have received and read this Notice.

Name David Dillman

Title Safety Director

Signature David Dillman

Date 11/6/92

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the Owner, Operator, or Agent in charge of the company. If there is another company official who should also receive this information, please designate below:

Name _____

Title _____

Address _____

_____

U.S. ENVIRONMENTAL PROTECTION AGENCY
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

REQUEST FOR CONFIDENTIAL TREATMENT

Name of Individual	Title	Date
David Dillman	Safety Director	April 6, 1988
Firm Name	**Firm Address**	
Jebro Inc	2303 Bridgeport Dr Sioux City Iowa 51111	

Information for which Confidential Treatment is requested:

Nothing claimed during inspection

Acknowledgement of Claimant

The undersigned requests that confidential treatment of the information described be provided in accordance with provisions of the Freedom of Information Act (FOIA), 5U.S.C.552; EPA regulations issued thereunder, 40 CFR Part 2; and the Resource Conservation and Recovery Act (RCRA), Section 3007, as amended. The undersigned further acknowledges that he/she is authorized to make such claims for his/her firm.

The undersigned also certifies that each item described above meets all of the following criteria: (1) The company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures: (2) The information is not, and has not been, reasonably attainable without the company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial of quasi-judicial proceeding; (3) The information is not publicly available elsewhere; and (4) Disclosure of the information would cause substantial harm to the company's competitive position.

Signature (Owner, Operator, or Agent)	Title
Name of Inspector / **Title**	**Inspector's Signature**
Roma P Jenkins / Environmental Engineer	Roma P Jenkins

S. ENVIRONMENTAL PROTECTION AG Y

RECEIPT FOR SAMPLES AND DOCUMENTS

Inspector(s) Name and Address	Firm Name and Address
Roma P Jenkins U.S. EPA, Region VII ENSV Division 25 Funston Road Kansas City, Kansas 66115	Jebro Inc 2303 Bridgeport Dr Sioux City Iowa 51111 Name of Individual David Dillman Title Safety Director

Date Collected	Samples were:	
	( ) Purchased	( ) Received no charge ( )Borrowed

Sample Numbers	Amount paid for Samples

Duplicate Samples Requested	Method of Payment
( ) Yes ( ) No	( ) Cash ( ) Voucher ( ) To be Billed

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Resource Conservation and Recovery Act.

Receipt for the document(s) and/or Sample(s) described below is hereby acknowledged:

Letter dated 3/26/86 to Glenn Soyer, Iowa Environmental Services with 10 pages of attachments

Booklet titled "Specifications for Paving and Industrial Asphalts"

Signature (Owner, Operator, or Agent	Title
[signature]	Safety Director

Name of Inspector	Title	Inspector's Signature
Roma P Jenkins	Environmental Engineer	Roma P Jenkins

March 26,1986

Glenn Soyer
Iowa Environmental Services
820 1st Street
Suite 200
Des Moines,Iowa 50265

Dear Glenn,

The information that you requested for an EPA presentation, I have supplied according to the question numbers you sent to us.

1.)Refer to Enclosure #1;"Schematic of Jebro Blending Operations".

2.)Refer to Enclosure #1;"Schematic of Jebro Blending Operations", again to get an idea of the virgin products now purchased and how they enter into Jebro's blending operations. I have also provided a list here.

a.Mineral Spirits
  1)stoddard solvent types
    a.Exxon Varsol
    b.Gettysolve S-2
    c.Farmland mineral spirits and naptha
    d.Skellysolve S and S-66

b.Diesel Fuel Oils
  1)Y-grade
  2)X-grade

c.Fuel Oils
  1)Amoco Heavy Fuel Oils(petroluem distillates)
  2)Amoco #1 Fuel Oil
  3)Amoco #2 Fuel Oil
  4)#5 Fuel Oil-"Burner Fuels" in Enclosures
  5)#6 Fuel Oils-"Burner Fuels" in Enclosures

d.Asphalt Cement(Exxon) and Petroleum Asphalt(Marathon)
  Viscosity Designations
    AC 2.5,AC-5 Soft
    AC-10,AC-20 Hard

e.Softening Agents-used to vary the consistency of asphalt cement and produce softer grades of asphalt.
  1)Sundex 790T
  2)Mobilsol 120

3.)End Products; I have provided the testing standards and the specifications the products must meet in Enclosure #2;"Standard specifications for Asphalt Materials". This enclosure also includes an explanation of each individual testing method.

4.)Materials Jebro plans to reuse;Refer to Enclosure #3"Schematic of Waste Introduction into Jebro Blending Operations"

a.)Used Oils produced from machinery and lubricating systems (lubricating and hydraulic fluids for example)

b.)Used Diesel Fuel Oils (petroleum distillates)

c.)Used Mineral Spirits and Stoddard Solvents (aliphatic hydrocarbons and petroleum distillates)

5.)Waste Introduction into Jebro blending operations. Refer to Enclosure #3 "Schematic of Waste Introduction into Jebro Blending Operations."

6.)End products using recycled materials. I have provided examples of products we have made in the laboratory along with the specifications they must meet. I have also provided examples of a product that meets specification requirements and one that does not. Please note that Enclosure #5"Out of Specification RC-70 made with non-virgin solvent" did not meet specification requirements, but a change in blending proportions could easily rectify the situation. I have also provided Nebraska and Iowa pay rates for off specification material in an effort to illustrate the penalties applied for manufacturing out of specification material. Refer to Enclosure #4 "Specification RC-70 made with Virgin constituents; Enclosure #5 "Out of Specification RC-70 made with non-virgin constituents" ; Enclosure #6 Iowa's Current pay rate for Asphalt Materials that fail to meet Iowa specifications., and Enclosure #7 Nebraska's Current Pay rate for asphalt materials that fail to meet Nebraska specifications.

Example #1 AC-10 + 8% hydraulic waste oil=AC 2.5

Tests performed	AASHTO M226 Virgin AC 2.5 Specifications	AC 2.5 Blend Results
Viscosity @ 140F.	200-300poises	269poise (AASHTO T202)
Penetration @ 77F.	220minimum	270 (AASHTO T49)
Loss on Heating	-	.531% (AASHTO T179)
Residue Viscosity @ 140F.	1000poise maximum	900poise (AASHTO T202)

Example #2 AC-10 + 4% Minnwax Antique Oil finish distillation residue= AC 120/150

Tests performed	AASHTO M20 Virgin AC 120/150 Specifications	AC 120/150 Blend Results
Viscosity @ 140F.	-	719poise (AASHTO T202)
Penetration @ 77F.	120-150	130 (AASHTO T49)
Loss on heat	1.3% maximum	.3328% (AASHTO T179)
Residue Viscosity @ 140 F.	-	2007poise(AASHTO T202)
Penetration % of original	46%minimum	50.77% (AASHTO T49)

Explanation of Tests

Viscosity: an indication of the materials' resistance to flow

Penetration: a weighted needle is allowed to puncture the material for 5 seconds, this provides an indication of the material's thickness.

Loss on Heating: samples are heated for 5 hours to determine how much of the material will be lost during heating. An indication of the volatile components present.

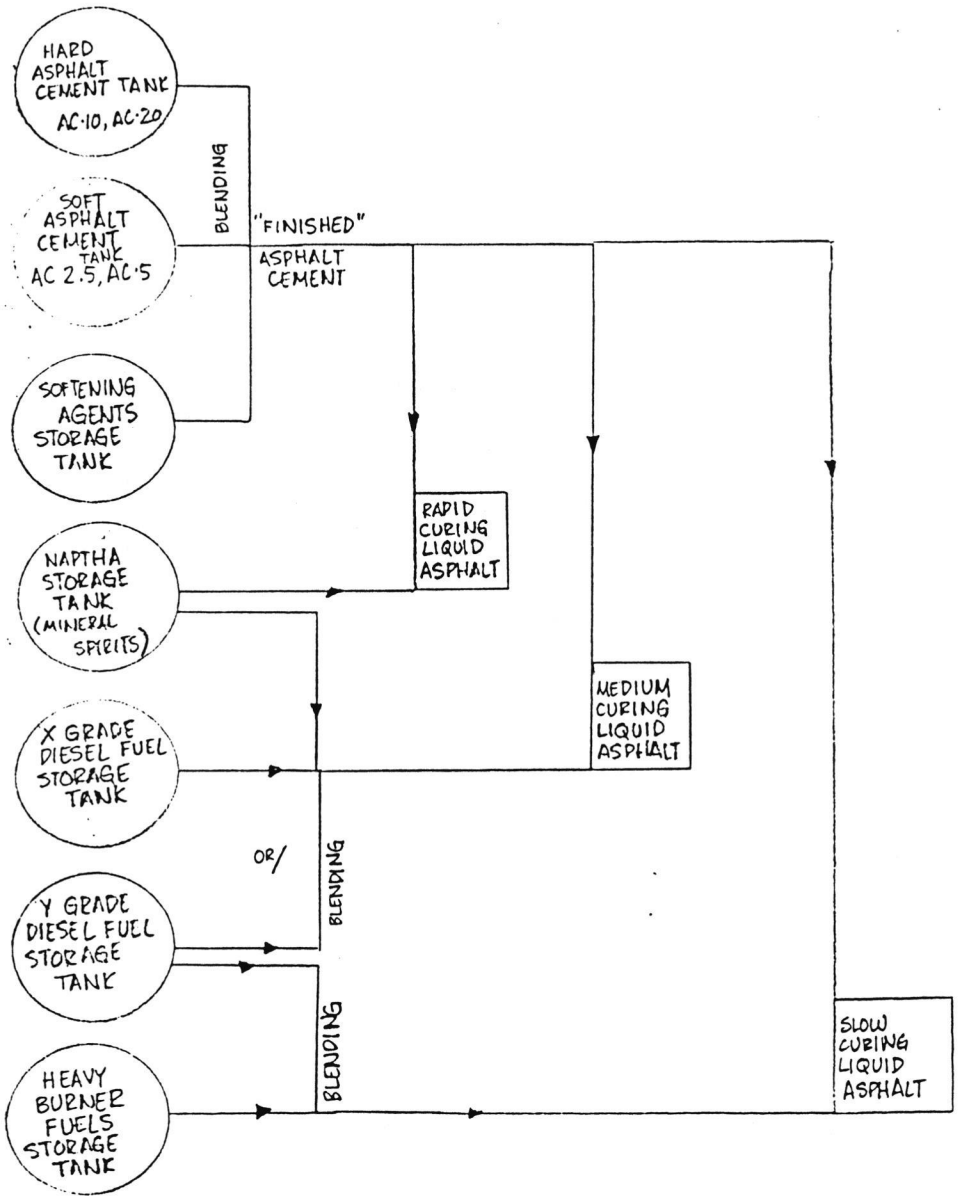
Residue Viscosity: when compared to the original viscosity this indicates how thick the material becomes after heat is applied.

Residue Penetration: a weighted needle is allowed to puncture the material for 5 seconds. When done on a specimen after heating, an idea of the material's thickness can be obtained.

7.) Above ground tank storage will be used for the wastes before introduction into our blending processes.

8.) Please refer to Enclosure #8 "Proposed Distillation Operation" for a description of the stripping process. Used oil will be the only waste processed in the distillation operation. I have also included Enclosure #9 "Jebro's location with respect to Surrounding Industries," and Enclosure #10 "Jebro Plot Plan"

SCHEMATIC OF: JEBRO BLENDING OPERATI ENCLOSURE #1



EXPLANATION OF INDIVIDUAL TESTS

KINEMATIC VISCOSITY: a measure of the resistance to flow of the liquid.

FLASH POINT (COC): the sample's temp. is raised at a constant rate while a test flame is passed over the sample at specified intervals. The lowest temp. where the test flame causes the vapors above the surface of the liquid to ignite is recorded as the flash point.

DISTILLATION TEST: This procedure measures the amount of the more volatile components in cut back asphalt products.

SOLUBILITY IN TRICHLOROETHYLENE: The sample is dissolved in trichloroethylene and filtered through an asbestos mat. The insoluble material is washed, dried, and weighed. This method is a measure of the purity of asphalt. The portion that is soluble in trichloroethylene represents the active cementing constituents.

WATER%: The sample is heated with a water insoluble solvent which co-distills with the water in the sample. Condensed solvent and water are continuously separated in a trap, the water settling in the graduated section of the trap and the solvent returning to the still.

DUCTILITY: measured by the distance to which a sample will elongate before breaking when two ends of a briquet sample of the material are pulled apart at a specified speed and at a specified temperature.

SCHEMATIC OF: WASTE INTRODUCTION INTO JEBRO BLENDING OPERATIONS ENCLOSURE #3

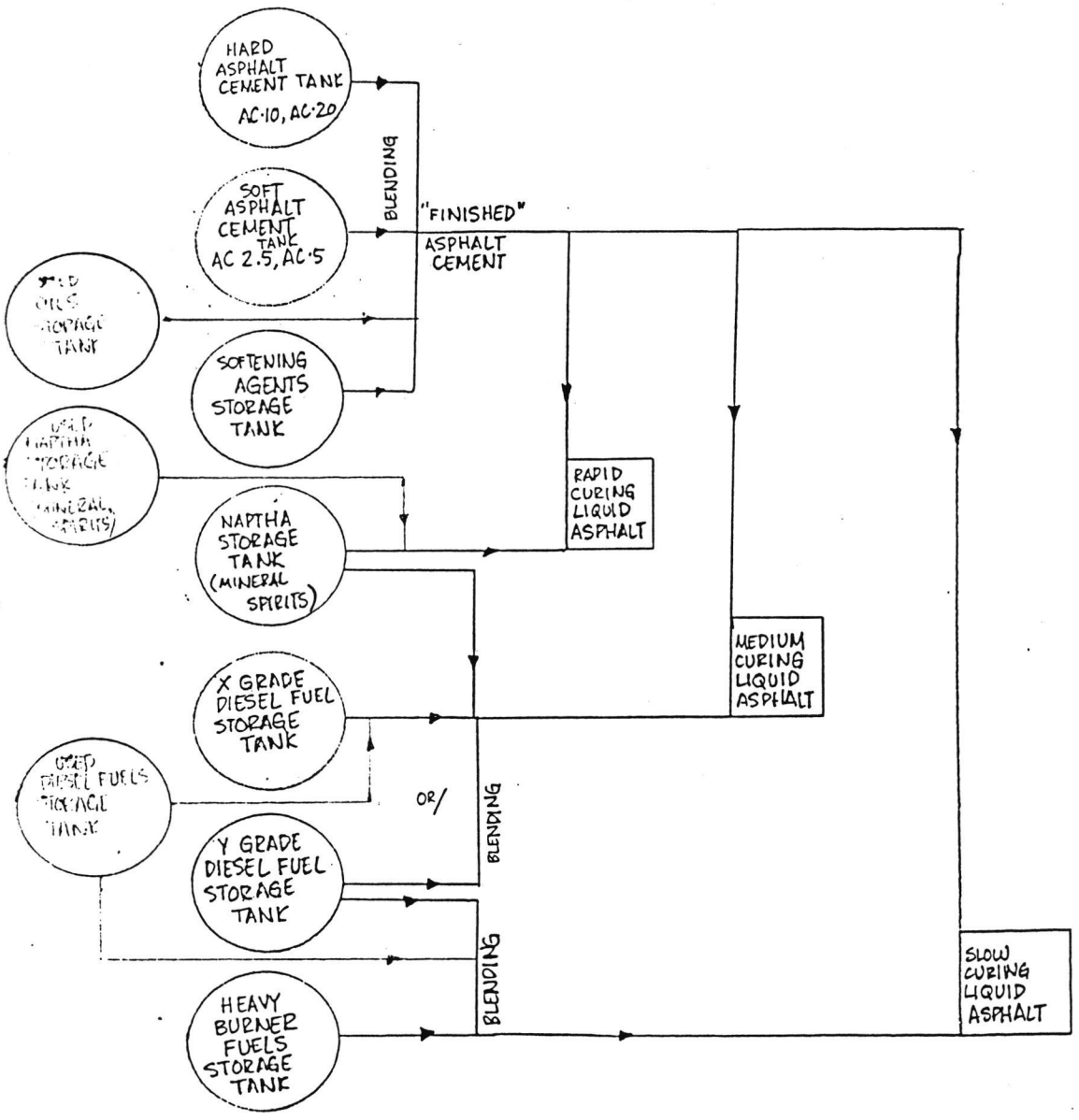


EXHIBIT #4 SPECIFICATION RC-70 MADE WITH VIRGIN CONSTITUENTS

Jebro Inc.

DK DB 10-24

CERTIFICATE OF ANALYSIS FOR CUTBACK ASPHALT

Material	RC-70
Date Sampled	10-23-85
Date Tested	10-23-85 @ 12:45 PM
Sampled by	KEITH HORN
Tank #	16
Consigned to	
Specific Gravity @ 60F.	0.933 g/ml
Lbs./ Gallon @ 60F.	7.770 lbs/gallon

PROPERTIES	TEST RESULTS	SPECIFICATION REQUIREMENTS
Viscosity, Kinematic @ 140F., cs.	101 cs	70-140 cs
Flash Point, F., Tag Open Cup		
Water, %		
Distillation Test		
Distillate, % by Volume of Total Distillate to 680F.		
Total to 374F.	51.97%	(10-%) MINIMUM
Total to 437F.	75.59%	(50-%) MINIMUM
Total to 500F.	86.61%	(70-%) MINIMUM
Total to 600F.	96.06%	(85-%) MINIMUM
Residue from Distillation to 680F. Percentage Volume by Difference	61.55%	(55-%) MINIMUM
Tests on Residue From Distillation		
Penetration @ 77F.	96	80-120
Viscosity, Absolute @ 140F., poises	1241 poises	600-2400 poises
Ductility @ 77F.		
Solubility in Trichloroethylene, %		

TEST METHOD AASHTO M81-75

LAB TECHNICIAN Joseph C. Hund

Jebro Inc. 2303 Bridgeport Drive Sioux City, IA 51111 712-277-8855

EXHIBIT #5 OUT OF SPECIFICATION RC-70 MADE W/ NON-VIRGIN SOLVENT

#1050

Jebro Inc.

CERTIFICATE OF ANALYSIS FOR CUTBACK ASPHALT

#2716 DARK WALNUT MINNWAX STAIN UNSTIRRED

Material	60% AC-10 + 40%
Date Sampled	10-31-85
Date Tested	10-31-85 @ 9AM
Sampled by	
Tank #	
Consigned to	
Specific Gravity @ 60F.	0.928 g/ML
Lbs./ Gallon @ 60F.	7.728 lbs/gallon

PROPERTIES	TEST RESULTS	RC-70 SPECIFICATION REQUIREMENTS
Viscosity, Kinematic @ 140F., cs.	62 cs	70-140 cs
Flash Point, F., Tag Open Cup	152 °F	—
Water, %		
Distillation Test		
Distillate, % by Volume of Total Distillate to 680F.		
Total to 374F.	18.99%	(10-%) MINIMUM
Total to 437F.	67.09%	(50-%) MINIMUM
Total to 500F.	83.54%	(70-%) MINIMUM
Total to 600F.	95.57%	(85-) MINIMUM
Residue from Distillation to 680F. Percentage Volume by Difference	53.30%	(55-) MINIMUM
Tests on Residue From Distillation		
Penetration @ 77F.	98	80-120
Viscosity, Absolute @ 140F., poises	1335 poises	600-2400 poises
Ductility @ 77F.		
Solubility in Trichloroethylene, %		

SPECIFIC GRAVITY (DISTILLATE) = 0.7550 g/
VISCOSITY (DISTILLATE) = 0.856 cS
FLASH POINT (DISTILLATE) = 94°F

TEST METHOD AASHTO M81-75

LAB TECHNICIAN Joseph C. Mound

Jebro Inc. 2303 Bridgeport Drive Sioux City, IA 51111 712-277-8855

ENCLOSURE #6 IOWA'S CURRENT PAY RATE FOR ASPHALT MATERIALS THAT FAIL TO MEET IOWA SPECIFICATIONS

Average the tests for the quantity affected. A minimum of three test values shall be averaged. If only one test value is available for the quantity, include the recent individual test both prior to and following the applicable deviating value in the average. If two values are available, include the most recent value; when a single value must be chosen from the two, use the first following test value.

Use the following tables to obtain the applicable payment adjustment in accordance with Article 1105.05:

✳ AC - 2.5 VISCOSITY GRADED ASPHALT CEMENT

Viscosity Range	% Payment
320 - 311	95
310 - 301	98
300 - 200	100
199 - 195	98
194 - 186	95
185 - 168	80
167 - 145	60
145 minus	Requires Special Attention

AC - 5 VISCOSITY GRADED ASPHALT CEMENT

Viscosity Range	% Payment
660 - 641	90
640 - 621	95
620 - 601	98
600 - 400	100
399 - 391	98
390 - 373	95
372 - 338	80
337 - 295	60
295 minus	Requires Special Attention

AC - 10 VISCOSITY GRADED ASPHALT CEMENT

Viscosity Range	% Payment
1350 - 1250	95
1240 - 1210	98
1200 - 800	100
799 - 782	98
781 - 747	95
746 - 679	80
678 - 595	60
595 minus	Requires Special Attention

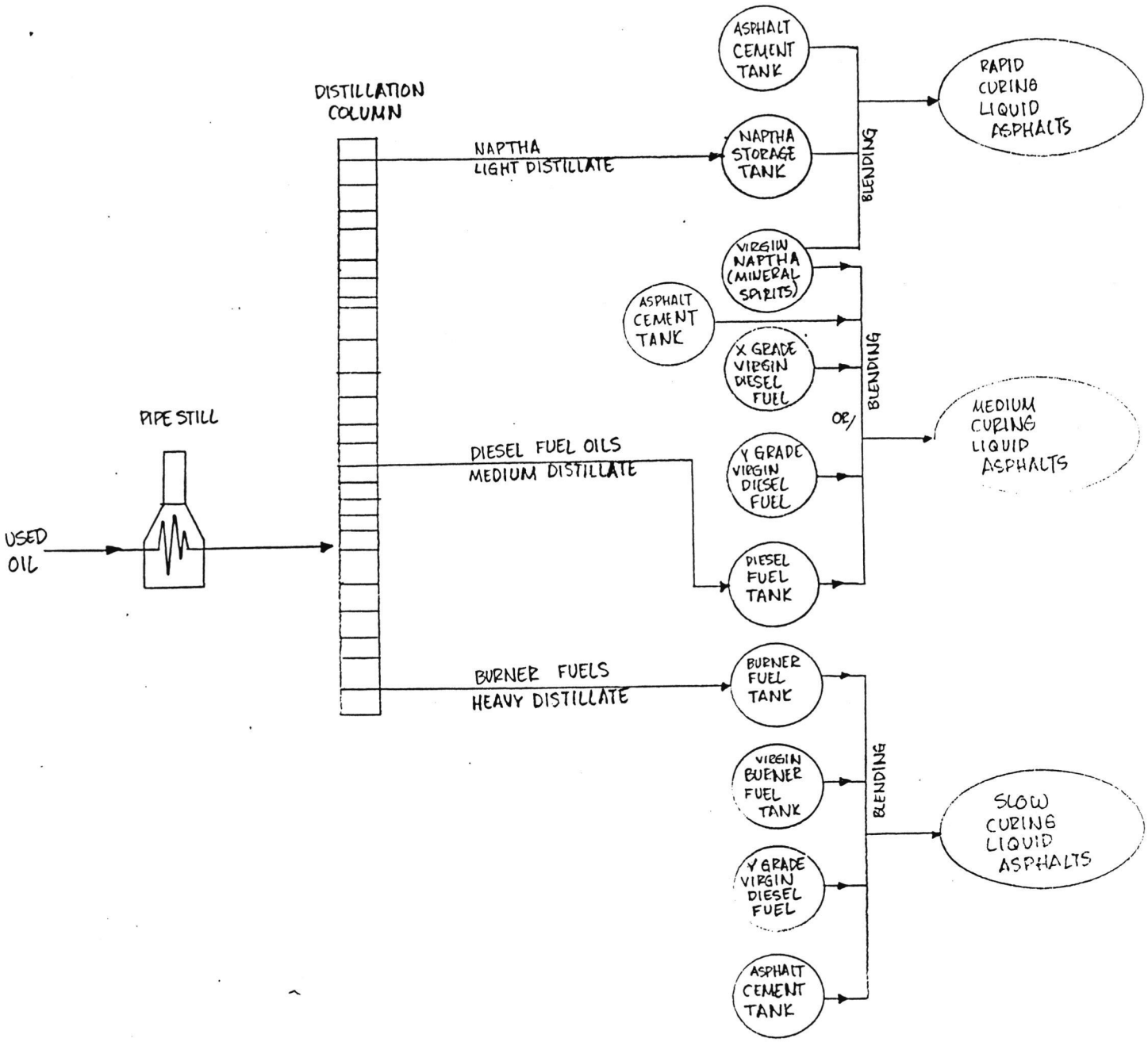
TYPE OF MATERIAL AND TEST	PAY FACTOR									
	1.00		0.95		0.90		0.80		0.70	
RC-70	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Viscosity 140 F	63	154	60-62	155-161	56-59	162-168	52-55	169-175	49-51	176-182
Dist. 437 F	45	-	42-44	-	40-41	-	38-39	-	35-37	-
500 F	63	-	60-62	-	56-59	-	52-55	-	49-51	-
600 F	76	-	72-75	-	68-71	-	64-67	-	60-63	-
Dist. Residue	50	-	47-49	-	44-46	-	41-43	-	38-40	-
Pen. of Residue	72	132	68-71	133-138	64-67	139-144	60-63	145-150	56-59	151-156

RC-250	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
viscosity 140 F	225	550	212-224	551-575	200-211	576-600	188-199	601-625	175-187	626-650
Dist. 437 F	32	-	30-31	-	28-29	-	26-27	-	24-25	-
500 F	54	-	51-53	-	48-50	-	45-47	-	42-44	-
600 F	72	-	68-71	-	64-67	-	60-63	-	56-59	-
Dist. Residue	58	-	55-57	-	52-54	-	49-51	-	46-48	-
Pen. of Residue	72	132	68-71	133-138	64-67	139-144	60-63	145-150	56-59	151-156

RC-800	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
viscosity 140 F	720	1760	680-719	1761-1840	640-679	1841-1920	600-639	1921-2000	560-599	2001-2080
Dist. 437 F	14	-	13	-	12	-	11	-	10	-
500 F	40	-	38-39	-	36-37	-	34-35	-	32-33	-
600 F	68	-	64-67	-	60-63	-	56-59	-	52-55	-
Dist. Residue	68	-	64-67	-	60-63	-	56-59	-	52-55	-
Pen. of Residue	72	132	68-71	133-138	64-67	139-144	60-63	145-150	56-59	151-156

PAY FACTORS ARE EXPRESSED IN PERCENTAGES. COMPARE THIS TO ENCLOSURE #1 SPECIFICATION REQUIREMENTS FOR RC-70 GRADE.

PROPOSED DISTILLATION OPERATION ENCLOSURE # 8

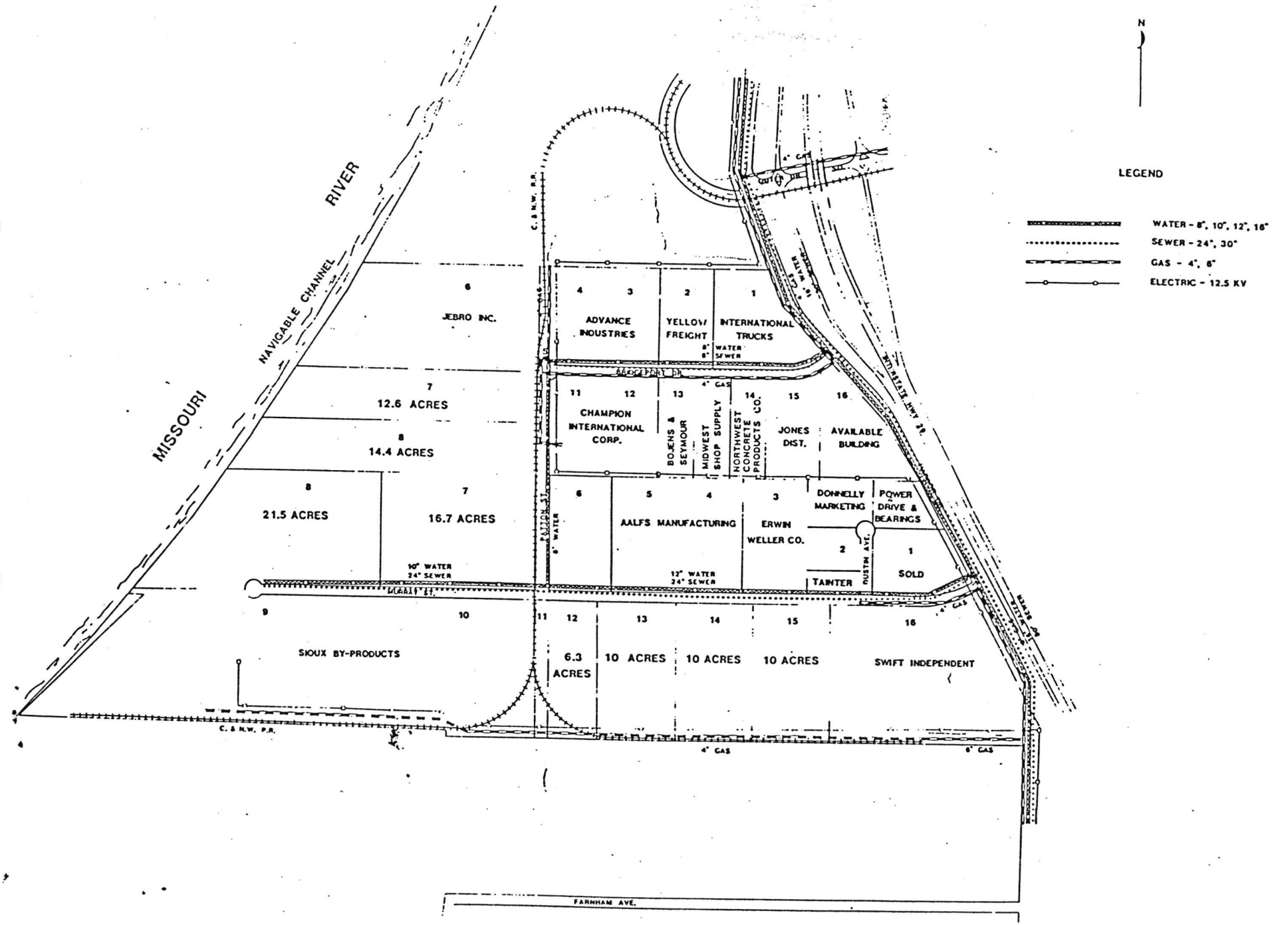


SUMMARY OF METHOD: RECTIFICATION TOWER

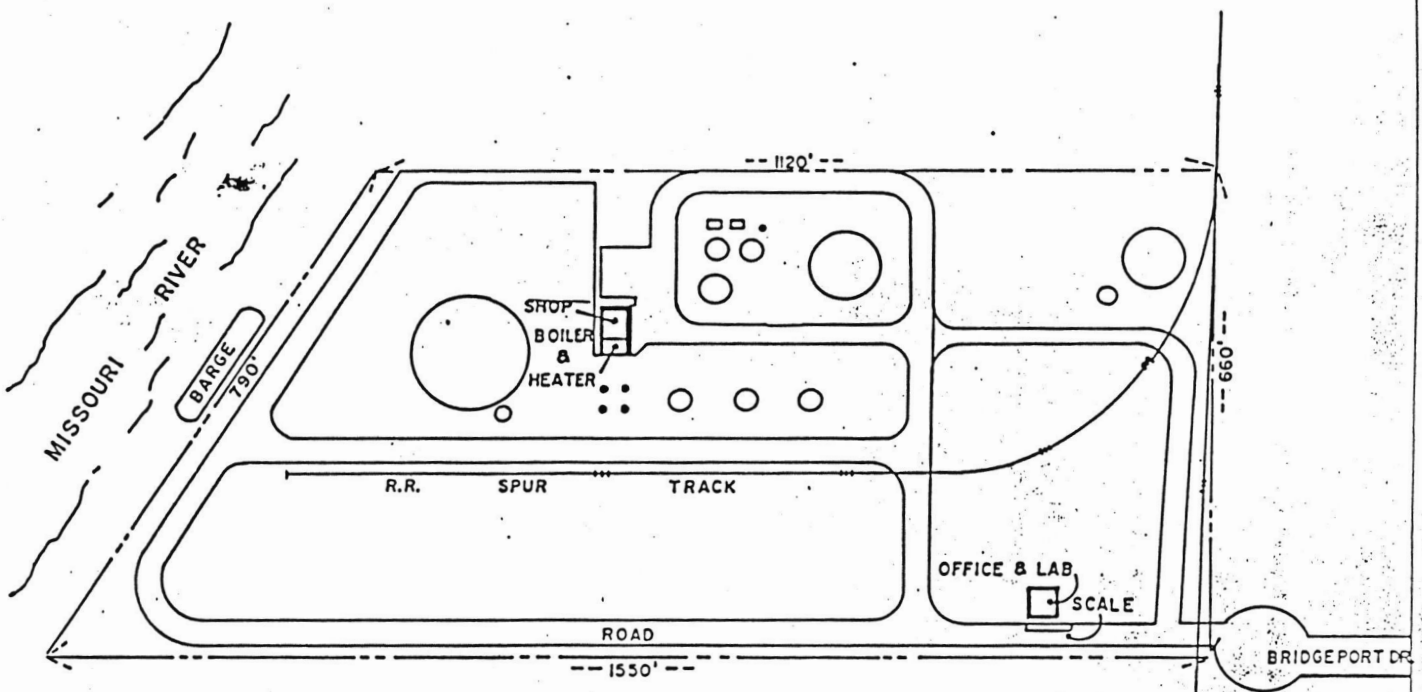
Used oil is passed through a heat exchanger in the pipe still and heated at a temperature where the components to be taken off vaporize. The material heated in the still is expanded at the bottom of the distillation column, where the vaporized portions separate from the liquid and move upward. The heavy distillates from the vapors moving upwards are condensed on the lower trays in the column, the lighter distillates on the higher trays.

To Surrounding Industry

BRIDGEPORT INDUSTRIAL PARK
SIOUX CITY, IOWA



ENCLOSURE #10 [illegible] Plot Plan



PLOT PLAN

JEBRO, INC.
JEBRO ASPHALT TERMINAL
2303 BRIDGEPORT DRIVE
SIOUX CITY, IOWA